

What Is Claimed Is:

1. In a method of tenderizing meat and/or killing microbes in meat, comprising

subjecting meat to a shock wave propagated through a non-compressable fluid, wherein

said meat is placed adjacent a first surface of a diaphragm having an acoustic impedance approximately the same as the acoustic impedance of said non-compressable fluid, said non-compressable fluid lying adjacent a second surface of said diaphragm, said diaphragm separating said meat from said non-compressable fluid; and

wherein movement of said meat is restricted when subjected to said shock wave passing through said non-compressable fluid and then through said diaphragm and into said meat;

the improvement wherein

said meat is confined and tightly sealed within a tunnel while being subjected to said shock wave.

2. The method according to claim 1, wherein the meat is confined, during said shock wave treatment, in a space having a metal top or bottom, sidewalls which are substantially transparent to the shockwave, metal ends, and said diaphragm through which the shock wave initially passes,

said diaphragm being located opposite said metal top or bottom.

3. The method of claim 2 wherein said side walls are formed of polyurethane.

4. The method according to claim 1, wherein the meat is confined, during said shock wave treatment, in a space having metal top or bottom, side walls and end walls which are metal, and said diaphragm through which the shock wave initially passes, said diaphragm being located opposite said metal top or bottom.

5. The method of claim 1 wherein said diaphragm is located above the meat and the shock wave passes downwardly through the diaphragm and into the meat.

6. The method of claim 2 wherein said diaphragm is located above the meat and the shock wave passes downwardly through the diaphragm and into the meat.

7. The method of claim 4 wherein said diaphragm is located above the meat and the shock wave passes downwardly through the diaphragm and into the meat.

8. In a method of tenderizing meat and/or killing microbes in meat, comprising

subjecting meat to a shock wave propagated through a non-compressable fluid, wherein

    said meat is placed adjacent a first surface of a diaphragm having an acoustic impedance approximately the same as the acoustic impedance of said non-compressable fluid, said non-compressable fluid lying adjacent a second surface of said diaphragm, said diaphragm separating said meat from said non-compressable fluid; and

    wherein movement of said meat is restricted when subjected to said shock wave passing through said non-compressable fluid and then said diaphragm and into said meat;

    the improvement wherein

    the diaphragm is above the meat and the shock wave passes downwardly through the diaphragm and into the meat.

9. In an apparatus suitable for the method of claim 8, comprising

    a chamber for containing an incompressible fluid having a first acoustic impedance, and a device for generating a shock wave within the incompressible fluid in said chamber;

    a diaphragm disposed adjacent said chamber, said diaphragm having one surface adapted to be in contact with the incompressible fluid within said chamber when said apparatus is in use, said diaphragm having an opposite surface adapted to be in contact with the meat when the apparatus is in use,

and said diaphragm having an acoustic impedance approximately the same as said first acoustic impedance; and

structure for restraining excessive movement of the meat when subjected to a shock wave passing through the incompressible fluid and then through said diaphragm and into the meat;

the improvement wherein said diaphragm and said chamber are disposed above the meat when the apparatus is in use, whereby the shock wave passes downwardly through the diaphragm and into the meat during use of said apparatus.

10. In an apparatus suitable for carrying out the method of claim 1, comprising

a chamber for containing an incompressible fluid having a first acoustic impedance, and a device for generating a shock wave within the incompressible fluid in said chamber;

a diaphragm disposed adjacent said chamber, said diaphragm having one surface adapted to be in contact with the incompressible fluid within said chamber when said apparatus is in use, said diaphragm having an opposite surface adapted to be in contact with the meat when the apparatus is in use, and said diaphragm having an acoustic impedance approximately the same as said first acoustic impedance; and

structure for restraining excessive movement of the meat when subjected to a shock wave passing through the

incompressible fluid and then through said diaphragm and into the meat;

the improvement wherein

the meat is tightly confined in a sealed tunnel space during use of the apparatus, said tunnel space having movable metal end walls.